



The GOES Active Archive -



A New Way to Browse and Access



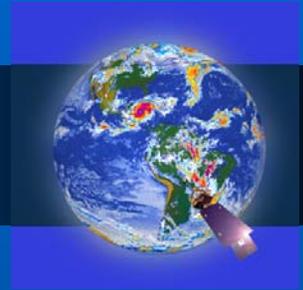
GAA Project Goals



- **Increase access to GOES data, its products, and inventories to the user community via the web**
 - ✓ **Includes GVAR (GOES-VARiable) data from the Imager and Sounder**
 - ✓ **GOES products will initially include:**
 - **Cloud and Water Vapor Winds**
 - **ASOS Supplemental Cloud Product**
 - **GOES Sounding Product**
 - **Three DPI - Lifted Index, Skin Temperature, TPP**



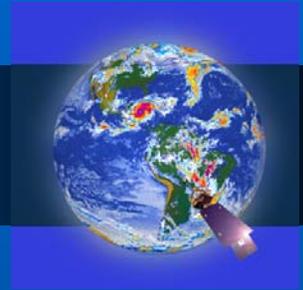
GAA Project Goals



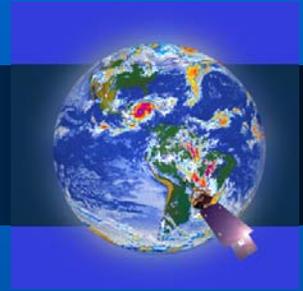
- **Automate ingest, quality control, and archive of the GOES data**
 - ✓ **FTP process now established between SSEC and NCDC via Abilene Network (~40Gb/day)**
 - ✓ **Files are matched for size as qc measure (assumption that files are not corrupted)**
 - ✓ **Files will be stored on expandable near-line robotics system (+300Tb capacity)**
 - ✓ **Rescued GOES data planned to be transferred via FTP and ingested automatically**



What Do Customers Want?



- ✓ **Friendly user interface to data and inventories**
- ✓ **Quick delivery**
- ✓ **Low cost or no cost service**
- ✓ **Delivery by FTP**
- ✓ **More format options (GVAR, McIDAS, NetCDF, HDF, IDL, JPG, GIF)**
- ✓ **Data converters/translators**



What Do Customers Want?

- ✓ **Data selection by date, time, and area**
- ✓ **Browse images (looping capability)**
- ✓ **Ability to search data by event categories (I.E. tornadoes, hurricanes, flash floods, etc.)**
- ✓ **Further selection of data by satellite id, instrument and band (vis, wv, ir)**
- ✓ **Option to get either full resolution or reduced resolution data (ISCCP?)**



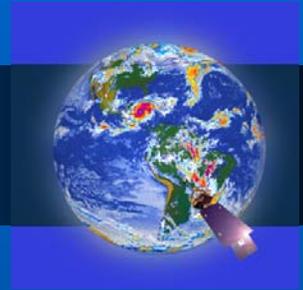
Limits on GAA (ver1.0)



- ✓ No event based searches (OSEI/HSEI?)
- ✓ No dynamic looping capability
- ✓ Limited browse images
- ✓ Bulk orders considered case by case basis
- ✓ Only recent data



GAA System Requirements



- **GAA's System Design is based on two independent sources:**
 - 1) **Customer Requirements – which were gathered specifically for this project**
 - 2) **CLASS Requirements – Comprehensive Large Array-data Stewardship System**
 - **NESDIS' plan for stewardship of current and future remote sensed data (i.e. NEXRAD, NPOESS, METOP, EOS/LTA)**



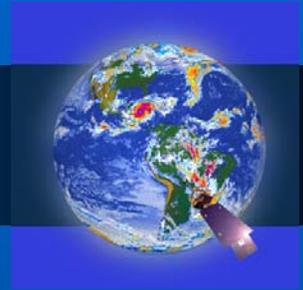
GAA System Requirements



- **GAA/CLASS requirements**
 - ✓ **Capability for e-commerce**
 - ✓ **Significant interaction and information sharing between CLASS nodes (SAA – GAA)**
 - ✓ **Object Oriented software**
 - ✓ **Centralized software testing and development**
 - ✓ **Capability for disaster backup and restoration of data**
 - ✓ **Single configuration management plan**



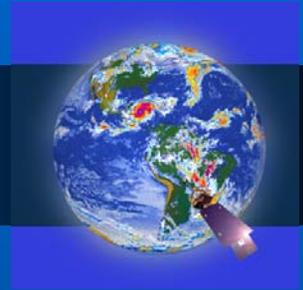
GAA Design Approach



- **Design based on the Satellite Active Archive (SAA) – the POES equivalent**
- **SAA selected as the model for the CLASS Customer Access Portal**
- **SAA version 3.1 = CLASS version 0.0**
(Planned release date is April 2002)
- **About 50% of the code in the SAA can be used in the GAA architecture without modification**



GAA Design Approach



- **Reusing the SAA for a framework has following benefits:**
 - ✓ No need to rewrite 50% of the code
 - ✓ Use of proven system with excellent record of reliability – 24x7 operation
 - ✓ Object oriented design with independent architectural layers (user, servicing, and ingest) easy to re-configure
 - ✓ SAA activity controller can be used with no code change.



GAA Design Approach



- ✓ **No loss of records - all customers, products, scripts, controls, formats, source locations, and destinations of products are defined in RDBMS**
- ✓ **Great deal of cost savings and development time**
- ✓ **Single user interface for POES and GOES data**
 - **Separate order processing systems invisible to user**



When Will GAA Become Reality?

- **Best estimates - end of 2002**
 - ✓ Only current data will be available
 - ✓ Retrospective data from most recent on back to be added soon thereafter
 - ✓ Will take a few years before entire archive comes online (~300Tb)
 - ✓ All of GOES products and ISCCP should be available within a year